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C004
in which the metal is subject to corrosion, and particularly relating to a corrosion sensor for use in tanks which contain or intermittently contain conductive electrolyte. --

Please replace the paragraph beginning at page 7, line 12, with the following rewritten paragraph:

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-- A tank corrosion monitoring system that accurately monitors the coatings degradation and corrosion level, and which measures the current output from an instrumented sacrificial anode and measures the potential from at least one reference half cell is disclosed herein. --

Please replace the paragraph beginning at page 8, line 10, with the following rewritten paragraph:

fl3
-- Objects of the present invention are achieved by providing an apparatus which includes first a means for measuring a potential which corresponds to a polarization of a tank. The apparatus also includes a second means for measuring a current output of the tank. The polarization and the measured current output together indicate an amount of corrosion of the tank and the amount of tank coatings loss.--

Please replace the paragraph beginning at page 10, line 7, with the following rewritten paragraph:

fl4
-- Fig. 10 is a graph of tank polarization test results for tank filling episode in a tank with 1 to 2 year old tank protective coating. --

Please replace the paragraph beginning at page 13, line 1, with the following rewritten paragraph:

fl5
-- In order to provide a low resistance ground connection, the anode wire 34 is attached to the sacrificial anode 3 at electrical connection 19. The anode wire 34 is of sufficient gauge to carry the magnitude of current without a voltage drop, typically equivalent to that normally provided by the anode at a direct ground metallic connection. The sacrificial anode wire 34, here contained within cable 4 (shown in Fig 1), connects through the reference half-cell and connects directly to a shunt resistor 9. The shunt resistor of this embodiment is a low wattage (1-3 Watts), very low resistance (0.1 ohm) resistor and does very little to impede the flow and magnitude of current to ground. Because the shunt resistance is low, the slight voltage drop read across the shunt resistor 9 can be equated directly to the instrumented sacrificial anode current. Electrical leads 33 attached to the ends of the shunt resistor feed into the datalogger 6 and provide both a hull ground reference point and anode current output data, which are stored by the datalogger. Tank ground 15 connects to tank hatch 7, grounding the system. --